

REMARKS

Claims 1 and 16 have been amended by more specifically defining the degree of ethoxylation for the co-surfactant d) ii). Support for this amendment can be found in original claim 3 as well as page 3, line 18 of the specification. Claims 3-5 and 8 have been amended to include proper Markush language. Claim 2 has been cancelled. No new matter has been added.

Claims 1-16 have been rejected under 35 U.S.C. 103 (a) as allegedly being obvious over the combined teachings of Osborn et al. (US 6,010,979) and Finch, Jr. (US 5,078,781), further in view of Albright & Wilson (EP 0 388 239). Applicants respectfully traverse.

An object of the present invention is to provide an agrochemical aqueous concentrate consisting of a solution of a water-soluble agrochemical having suspended therein a water-insoluble agrochemical. It was found that anti-settling systems conventionally used to suspend water-insoluble agrochemicals (such as, for example, water-swelling clay suspending systems) are rendered ineffective in the presence of a water-soluble agrochemical which is an electrolyte. The present invention therefore seeks to provide a stable suspension of a water-insoluble agrochemical in the presence of a water-soluble agrochemical electrolyte. This problem is neither addressed nor solved in the prior art. The solution provided by the present invention is to form a "structured system" by the interaction of an alkylpolyglycoside and a defined co-surfactant. The "structured system" acts as a suspension aid for the water-insoluble agrochemical and provides a major advantage in that the alkylpolyglycoside acts as both bioperformance enhancing adjuvant and as a component of the suspending system (page 2, lines 8 to 18). The possibility that an alkylpolyglycoside might interact with a co-surfactant to form a structured system and thereby act as a suspension aid for a suspended solid is simply not contemplated in the art cited by the Examiner.

Osborn et al disclose herbicidal compositions containing (i) glyphosate, (ii) a specific alkylpolyglycoside adjuvant and (iii) an ethoxylated alcohol. The objective of Osborn is improved rain-fastness (col. 1, lines 50-55). Osborn et al disclose a list of possible co-herbicides that may act with the glyphosate, included in the extensive list are water-insoluble herbicides. No Examples showing compositions containing glyphosate and a co-herbicide are provided. The problem of how such water-insoluble herbicides are to be suspended in the presence of glyphosate is simply not addressed.

While the ethoxylated alcohols of Osborn may be obtained by ethoxylation of a linear or branched chain aliphatic mono-alcohol having a chain length of from 8 to 20 carbon atoms with a mean degree of ethoxylation of from 2 to 50 moles of ethylene oxide, it is preferred, however, that the mean degree of ethoxylation is from 10 to 20 and more preferably 11 to 18 (col 3, lines 35 to 46). The specific ethoxylated alcohols listed on col 3, line 66 to col 4, line 29 have a degree of ethoxylation ranging from 10 to 20. The Examples show a similar range of degrees of ethoxylation.

The present invention claims alkoxyated alcohols having a degree of alkoxylation of from 1 to 3. Such a range is not disclosed by Osborn et al and is well outside the preferred and exemplified range of alkoxylation in Osborn. As noted above the selection solves a problem simply not contemplated by Osborn et al.

Finch relates to mixtures of a bipyridylium herbicide and a photosynthesis-inhibiting herbicide. The object of Finch is to improve the light stability of the bipyridylium herbicide. Furthermore, the photosynthesis inhibiting herbicide is present as a solution in an oil in which it is soluble (component (c) of Finch). Finch notes (col 3, lines 6 to 12) that more active photosynthesis inhibiting herbicides tend to be water-insoluble. Finch, however, resorts to the use of an oil in which the photosynthesis inhibiting herbicide is soluble and as a result teaches completely away from the present invention. The role of the surfactant (col 3, lines 52 to 61) is to form a "soluble liquid" since the oil and the photosynthesis inhibiting herbicide contained in it are now "soluble" in water. Finch therefore relates to a completely different problem to that of the present invention and does not disclose a suspension of a water-insoluble herbicide or the formation of a "structured system" by the interaction of an alkylpolyglycoside and a co-surfactant.

The Examiner seeks to combine the above references with Albright & Wilson. Albright & Wilson teaches that certain surfactants may be used to suspend relatively water-insoluble biocidal or agrochemical active substances in aqueous media. There is no teaching in Albright & Wilson that a structured system may be formed by the interaction of an alkylpolyglycoside and a co-surfactant or that such a system may be used to suspend a water-insoluble herbicide in a solution of an agrochemical electrolyte. The present invention does not rely on the use of ethoxylated alcohols per-se to form a structured system. The structured system is formed by the interaction of the specific co-surfactant and the alkylpolyglycoside.

Applicants respectfully disagree that one skilled in the art would be motivated to combine these references. Finch teaches that water-insoluble herbicides should be dissolved in an oil rather

than suspended in the aqueous medium. Osborn fails to recognize that there is a problem in suspending water-insoluble herbicides in a solution of a water-soluble herbicide which is an electrolyte. Albright & Wilson does not use or suggest the interaction of an alkylpolyglycoside and the co-surfactant of the present invention to provide a structured system for supporting the water-insoluble herbicide which is at the same time an effective bioperformance enhancing system for the water-soluble herbicide.

In view of the above amendments and arguments, Applicant respectfully submits that the rejections under 35 U.S.C. § 103(a) have been overcome and hereby request that this application be passed to issue.

As this response is submitted within three months from the mailing date of the Office Action, no fee is necessary.

However, in the event the undersigned is mistaken in his calculations, an appropriate extension of time to respond is respectfully requested, and the Commissioner is authorized to debit the appropriate fee for that extension, or any other fee, from the deposit account of the undersigned, no 50-1676 in the name of Syngenta Crop Protection, Inc.

Respectfully submitted,



Thomas Hamilton
Attorney for Applicant
Reg. No. 40,464

Syngenta Crop Protection, Inc.
Patent and Trademark Dept.
410 Swing Road
Greensboro, NC 27409
(336) 632-7586

Date: January 2, 2003

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the claims:

Cancel claims 2

Amend claims 1, 3-5, 8 and 16 as follows:

1.(Twice Amended) An aqueous agrochemical concentrate formulation comprising

- a) an agrochemical electrolyte,
- b) a water-insoluble agrochemical system,
- c) an alkylglycoside, and
- d) a co-surfactant which interacts with the alkylglycoside to form a structured aqueous system

wherein the co-surfactant (d) is

- i) a linear or branched chain aliphatic or aromatic alcohol or
- ii) an alcohol or ester or alkyl phenol alkoxylate which is an alkoxylated C₈ - C₂₂ alcohol, an alkoxylated C₈ - C₂₂ alkyl phenol or an alkoxylated C₈ - C₂₂ carboxylic acid each containing from 1-3 alkoxy groups
- or
- iii) a glyceryl alkyl or alkenyl ester.

2. **Cancelled**

3.(Twice Amended) The formulation according to claim [2] 1 wherein:

the linear or branched chain alcohol (i) is a primary or secondary, linear or branched alkyl or alkenyl alcohol containing from 5 to 20 carbon atoms or is an alkyl- or alkenyl-substituted aromatic alcohol containing from 5 to 20 linear or branched alkyl carbon atoms; or

wherein the alcohol or ester or alkyl phenol alkoxylate (ii) is an alkoxylated C₈-C₂₂ primary or secondary, linear or branched chain alcohol, an alkoxylated C₈-C₂₂ alkyl phenol or an alkoxylated C₈-C₂₂ carboxylic acid each containing from 1-3 C₂-C₄ alkoxy groups; or

wherein the glyceryl alkyl or alkenyl ester (iii) is a monoester of a C₈-C₂₂ carboxylic acid with glycerol[; ~~or~~

~~wherein the sorbitan alkyl or alkenyl ester (iv) is a sorbitan ester having from 8 to 22 carbon atoms in the ester group].~~

4.(Twice Amended) The formulation according to claim 3, wherein the co-surfactant [is] comprises at least one member selected from the group consisting of pentanol, hexanol, octanol, octan-2-ol, decanol and their branched chain or mixture of branched chain equivalents, oleyl alcohol, 2-ethyl-1-hexanol, an ethoxylated lauryl alcohol having a mean ethylene oxide content of 2, an ethoxylated octyl phenol having a mean degree of ethoxylation of 3, and glyceryl monolaurate [~~and sorbitan monolaurate~~].

5.(Twice Amended) The formulation according to claim 1, wherein the agrochemical electrolyte [is] comprises at least one member selected from the group consisting of salts of glyphosate, fomesafen, glufosinate, paraquat and bentazone or is ammonium sulphate.

8.(Twice Amended) The formulation according to claim 7, wherein the water-insoluble herbicide [is] comprises at least one member selected from the group consisting of diuron, linuron, sulfometuron, chlorsulphuron, metsulfuron, chlorimuron, atrazine [~~or~~] and simazine.

16.(Twice Amended) A process for the preparation of the formulation according to claim 1 which comprises bringing into admixture an aqueous dispersion of

- a) an agrochemical electrolyte,
- b) a water-insoluble agrochemical system,
- c) an alkylglycoside, and
- e) optionally an ionic surfactant,

and thereafter adding

d) a co-surfactant which interacts with the alkylglycoside to form a structured aqueous system

wherein the co-surfactant (d) is

- i) a linear or branched chain aliphatic or aromatic alcohol or
- ii) an alcohol or ester or alkyl phenol alkoxylate which is an alkoxylated C₈ - C₂₂ alcohol,
an alkoxylated C₈ - C₂₂ alkyl phenol or an alkoxylated C₈ - C₂₂ carboxylic acid each
containing from 1-3 alkoxy groups
- or
- iii) a glyceryl alkyl or alkenyl ester.